

IN THE CLAIMS:

Please amend the claims as follows:

Claims 1 to 85 (Cancelled)

86. (Currently Amended) An apparatus that stores data and attempts to protect said data from storage errors, comprising

an array of disk drives, each of said disk drives having a plurality of storage blocks;

and

a controller that controls said array of disk drives;

wherein said controller controls storage of said data in said array of disk drives such that at least some of said storage blocks store at least part of said data and a block appended checksum that protects said part of said data from said storage errors, said block appended checksum including one or more checksums and [[,]] one or more block numbers including at least a virtual block number and a disk block number, ~~and one or more checksums~~, with at least one of said checksums being ~~at least partially for at least one of said block numbers~~ an embedded checksum that checks integrity of said block appended checksum; and

wherein said block appended checksum provides sufficient data to detect sector slides and misdirected reads and writes.

87. (Currently Amended) The apparatus as in claim 86, wherein said one or more checksums include a first checksum for said data and said embedded ~~a second~~ checksum for said first checksum and said at least one of said block numbers.

88. (Cancelled)

89. (Previously Presented) The apparatus as in claim 87, wherein at least some of said storage blocks store parity data for those of said storage blocks that store said data, said one or more block numbers, and said one or more checksums.

90. (Previously Presented) The apparatus as in claim 89, wherein said parity data can be used to correct errors detected using said one or more checksums.

91. (Cancelled)

92. (Previously Presented) The apparatus as in claim 86, wherein said disk drives are hard disks.

93. (Previously Presented) The apparatus as in claim 86, wherein each of said storage blocks includes plural disk sectors.

94. (Previously Presented) The apparatus as in claim 93, wherein at least one of said one or more checksums for a storage block resides in one of the sectors of that storage block and is at least partially for data in others of the sectors in that storage block.

95. (Previously Presented) The apparatus as in claim 86, wherein said disk drives are part of a RAID storage device.

96. (Previously Presented) The apparatus as in claim 95, wherein said RAID storage device is a RAID level 4 device.

97. (Currently Amended) A method of storing data and attempting to protect said data from storage errors in an array of disk drives that each have a plurality of storage blocks, comprising steps of

determining ~~data for~~ a storage block for at least part of said data;

determining one or more block numbers for said storage block;

determining one or more checksums for said storage block; and

storing in said storage block said at least part of said data and a block appended checksum that protects said part of said data from said storage errors, said block appended checksum including said one or more checksums and [[,]] said one or more block numbers including at least a virtual block number and a disk block number ~~; and said one or more checksums in said storage block;~~

wherein at least one of said checksums is ~~at least partially for at least one of said block numbers~~ an embedded checksum that checks integrity of said block appended checksum; and  
wherein said block appended checksum provides sufficient data to detect sector slides and misdirected reads and writes.

98. (Currently Amended) The method as in claim 97, wherein said one or more checksums include a first checksum for said data and said embedded ~~a second~~ checksum for said first checksum and said at least one of said block numbers.

99. (Cancelled)

100. (Previously Presented) The method as in claim 98, further comprising a step of storing parity data in at least some of said storage blocks, said parity data for those of said storage blocks that store said data, said one or more block numbers, and said one or more checksums.

101. (Previously Presented) The method as in claim 100, wherein said parity data can be used to correct errors detected using said one or more checksums.

102. (Cancelled)

103. (Previously Presented) The method as in claim 97, wherein said disk drives are hard disks.

104. (Previously Presented) The method as in claim 97, wherein each of said storage blocks includes plural disk sectors.

105. (Previously Presented) The method as in claim 104, wherein at least one of said one or more checksums for a storage block resides in one of the sectors of that storage block and is at least partially for data in others of the sectors in that storage block.

106. (Previously Presented) The method as in claim 97, wherein said disk drives are part of a RAID storage device.

107. (Previously Presented) The method as in claim 106, wherein said RAID storage device is a RAID level 4 device.